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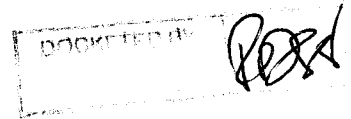
AZ CORP COMMISSION  
DOCKET CONTROL

September 30, 2011

Arizona Corporation Commission

DOCKETED

SEP 30 2011



Commissioner Brenda Burns  
Arizona Corporation Commission  
1200 West Washington Street  
Phoenix, AZ 85007

Re: Arizona Public Service Company 2012 RES Implementation Plan  
Docket No. E-01345A-11-0264

Dear Commissioner Burns,

On September 1, 2011, you requested that Arizona Public Service Company (APS or Company) and other companies respond to several specific issues regarding their respective 2012 Renewable Energy Standard (RES) Implementation Plans. Because several of these issues are germane to the Company's pending application for approval of its 2012 RES Implementation Plan and RES Adjustor, APS is submitting its response in the referenced docket.

Additionally, during Special Open Meeting on August 17, 2011, you requested that the utilities provide a calculation of the RES Adjustor that reflects costs only for firm contractual commitments that exist today, without any additional acquisition of renewable resources. That calculation for APS has been provided in response to your Question #8 below. The Company is also providing a calculation of the RES Adjustor for the APS 2012 RES Implementation Plan for each proposed Option for each of the Plan's five program years as Exhibit A to this letter.

For the convenience of the parties to this proceeding, each of your questions and the corresponding answer is either provided below or included as part of a corresponding exhibit.

**Question #1:** At the end of 2011, what, in terms of percentage and megawatts, will the following companies have reached on renewable energy output?

- a. APS
- b. TEP
- c. UNS

**Response:** By the end of 2011, APS estimates it will achieve a total of 440 MW of in-service renewable resources, which corresponds to approximately 124% of overall RES compliance. Table 1 below outlines estimated 2011 compliance energy and capacity by resource category. Please note that APS is required by Decision No. 71448 to acquire renewable resources in excess of the RES targets.

Table 1. Estimated 2011 APS RES Compliance by Category

	<u>MW</u>	<u>MWh</u>	<u>2011 RES Target</u>	<u>% of 2011 RES Target</u>
Renewable Generation	283	782,432	633,517	124%
Residential Distributed Energy <sup>1</sup>	55	110,696	105,586	105%
Non-Residential Distributed Energy <sup>1</sup>	102	153,000	105,586	145%
<i>Total</i>	<i>440</i>	<i>1,046,128</i>	<i>844,689</i>	<i>124%</i>

1. Annualized Energy Production

**Question #2:** Are there any projects that are in process, through the end of 2011, which will increase the percentage in the next year, or a following year?

- a. APS
- b. TEP
- c. UNS

**Response:** Yes. APS has committed to numerous projects for both utility scale renewable generation and distributed energy resources that are not currently on-line, but are expected to become operational after year end 2011, and will add to the Company's compliance percentage in future years. Exhibit B to this letter provides estimated energy that will be available to APS for compliance purposes after year-end 2011.

**Question #3:** If there were no REST, would you be investing in Renewable Energy?

a. If yes, how different would your individual company's investment plan be than the one-size-fits-all approach of the REST?

**Response:** APS would be investing in Renewable Energy even if there were no REST.

At the time the REST was implemented, most utilities, including APS, made resource planning decisions based predominately on calculating which resource was "least cost" with a very narrow view on how "cost" was determined. Today, with the tremendous amount of uncertainty around available conventional resources—whether natural gas price volatility, potential regulation of carbon for coal, or uncertain capital cost and regulatory requirements for new nuclear—many utilities view portfolio diversification as the optimal way to manage resource uncertainty. Renewable resources are essentially resources with a higher capacity cost but very low operating costs compared to conventional resources, and which hedge against the risk of future costs or uncertainty that may affect these other resources.

Also, standards like the REST were viewed as ways to help drive down the future cost of renewable resources. In fact, as the market matures, renewable energy costs are quickly approaching parity with new natural gas fired resources, thus enhancing the value that these resources provide for a more balanced and diversified portfolio.

As your question notes, the REST is a one-size-fits-all standard and so individual utility implementation absent a REST could differ. Given the need to establish a well diversified portfolio of energy resources that include renewable sources, APS's near term approach would have been consistent with the overall renewable resource commitments in the 2009 Rate Settlement, in which APS agreed to renewable energy levels through 2015. These commitments were for total renewable energy levels, not segmented into utility scale or distributed. Establishing distributed energy levels is more a policy matter for the Commission, as was done at the time the REST was created in Arizona. Although they would not likely be a focus of utility resource planners absent a REST, APS supports those distributed energy standards at their current levels because they are part of the REST, and believes that distributed energy offers an element of customer choice and participation that is different than with utility scale resources. After 2015, the timing of investments in renewable resources could be either accelerated or slowed based on how costs move toward parity and whether integration issues are encountered. Ideally, optimal renewable resource portfolio levels would be established in the resource planning process, and reviewed and adjusted periodically.

**Question #4:** If the REST required you to reach percentages in terms of renewable energy output, per year, but didn't carve out specific requirements, how would you allocate the resources as an individual company?

a. Therefore, what is the most economic and efficient way, from the ratepayer's position, of reaching the required REST percentages?

**Response:** Resource planning considerations require consideration of many technology, cost, and customer growth variables and are based on several assumptions and criteria. Given the rapid changes in price and technology seen with renewable resources, it is important to maintain diversity within a utility's renewable resource portfolio. For example, just as it is important to maintain a diverse portfolio of resources including natural gas, coal, nuclear, efficiency and renewables, it is as important to have a diverse portfolio of renewable technologies, sizes, locations and types. APS has applied this approach throughout its implementation of the RES, and so would likely have sought a similar mix of resources.

a. Generally speaking, utility scale renewable generation costs less than smaller distributed generation over the life of the asset. As such, from a pure cost standpoint, the more cost effective method of reaching the required REST percentages would be to reduce the amount of distributed energy in the portfolio, whether utility-owned or customer-owned. However, there are non-price benefits associated with distributed energy that could be considered.

**Question #5:** In what year do you anticipate that incentives will no longer be necessary?

**Response:** APS's ability to achieve the annual DE requirements with reduced incentive levels in 2010 and 2011, suggests that customer interest in solar may outpace the need for incentives within the next several years. However, a specific timeframe for elimination of incentives is difficult to estimate. Declines in the cost of equipment, installations, and the availability of alternative financing solutions in the last several years have contributed to both high customer interest and the gradual reduction of incentive levels. Using the 2012 RES plan that is currently before the Commission as a reference, if the Commission were to start the DE residential incentive at \$1.00/watt for 2012 and continue the previously approved timing of step-down reductions of incentives, this incentive level would likely be eliminated in approximately five

years, if not sooner. APS intends to continue to monitor future cost trends and customer demand to determine the appropriate incentive levels and pace of decline.

**Question #6:** The rapid reservation rate is \$1.00, why not apply that across the board?

**Response:** APS believes it is reasonable to contemplate beginning the 2012 program year with a \$1.00/watt residential PV incentive, should the Commission support this approach.

**Question #7:** PBI/UFI: please compare and contrast the differences and attributes of PBI and UFI.  
a. PBI or UFI: Which is more expensive, in the long-term, for the ratepayer?

**Response:** The APS Distributed Energy (DE) Program offers two standard incentive options: up-front incentives ("UFI") and production-based incentives ("PBI"). UFIs are those incentives where the participant receives a one-time payment based on the installed DE system's designed capacity, or a one-time payment based on the first-year energy savings provided by the DE system. This type of incentive is applied to all standard residential installations and smaller non-residential installations.

PBI payments apply to larger non-residential systems and are received by the participant over time based on agreed upon contract terms. APS has developed an analysis that compares the costs of UFIs and PBIs as you have requested. The costs in that analysis are competitively confidential and are being provided under seal.

**Question #8:** When considering only on-going contracts in effect at the end of 2011, how much are they budgeted to cost in each year of the next 5 years?  
a. What surcharge would they require each of the next 5 years?

**Response:** The total amount that would be collected through the RES budget for actual signed contracts as of September 2011, as well as current approved program commitments for which APS anticipates additional contracts will be executed prior to year end, ranges from approximately \$89 million in 2012 to over \$103 million in 2016. Budget amounts for these contracts for each year of the APS 2012 RES Implementation Plan, along with the portion of the RES adjustor required to support those commitments, are provided in the attached Exhibit C. It is important to note that the costs included in this Exhibit are external and do not include any administrative costs that would be needed to service the agreements, issue recurring incentive payments, or other required activities associated with program administration. The cost of service expenses associated with these commitments, which are typically about 10% of the program's total annual budget, would also need to be recovered in some manner.

**Question #9:** If your company has budgeted a REST plan for each of the next 5 years, how much is the anticipated total surcharge residential cap going to be 5 years from now?

**Response:** In the Company's 2012 Implementation Plan, APS proposed three separate budget options for its five-year plan horizon (2012-2016). Table 2 provides projected residential surcharge caps under each of these options. Note that in 2013 and 2015, the surcharge caps are lower than the prior year because the revenue requirement associated with utility-owned resources is moved to base rates—an

appropriate action because these APS-owned resources are providing energy and supply portfolio diversification to all customers.

*Table 2. Residential Surcharge Caps for the APS 2012 RES IP (\$/month)*

	Option 1	Option 2	Option 3
2012	5.21 <sup>1</sup>	5.96	6.41
2013	4.75	5.16	5.87
2014 <sup>2</sup>	7.74	7.93	8.67
2015	6.52	6.74	7.22
2016	7.15	6.98	7.29

**Question #10:** How much have you budgeted next year for marketing and advertising? How much of a percentage of the total budget is marketing and advertising?

- a. APS
- b. TEP
- c. UNS

**Response:** APS has budgeted \$3 million for customer programs and tools, as well as more traditional marketing and advertising efforts. This represents 2.4% of the proposed Option 1 budget. Included in this budget amount are a variety of important programs, customer tools, and outreach materials that are improving the quality of solar installations, providing essential information about APS incentive availability and program performance, and increasing the awareness of APS and third-party renewable energy product and service offerings. These efforts—which are very different from traditional marketing and advertising—are important in ensuring the ongoing effectiveness and value of the investment APS and its customers are making in renewable energy. As an example, APS's Qualified Solar Installer program is providing professional standards and training to third-party installers to improve the quality of installations and ensure the safe and reliable operation of rooftop systems. Other work-force training, programs, and tools are described in Exhibit D and provide similar benefits to APS customers and the Arizona renewable energy industry.

The portion of the APS budget designated for advertising as part of Exhibit D provides for a variety of outreach methods to describe developments in APS programs and customer cost saving

<sup>1</sup> Calendar year 2014 includes the first full year of operational costs for Solana.

<sup>2</sup> The proposed residential surcharge cap for Option 1 in 2012 is different from that provided in the Company's originally filed 2012 RES IP. In Decision No. 72592 dated September 15, 2011, the Commission granted APS's request to modify its residential incentives by maintaining a \$1.00/watt photovoltaic incentive level through the end of 2011. This Decision will allow the Company to provide incentives to more residential projects than originally expected in 2011, thereby increasing the MWh available to APS in 2012 to meet compliance. The Company's proposed Option 1 reflects the minimum budget necessary to achieve compliance under both the Commission's RES rules and the most recent APS rate case settlement. The lower incentive decreases the cost required in 2012 to meet compliance by approximately \$5 million.

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opportunities. More customers are getting information about APS programs from a wider variety of sources, including web content, trade shows, and interactive displays or deployments. APS's budget for these activities has been scaled back significantly from prior years to complement the increased awareness of renewable energy programs. These efforts have been designed to maximize the benefits to customers and stakeholders at the lowest possible cost and remain an important investment for customers seeking information about APS program offerings.

Thank you for the opportunity to address your questions and concerns. APS looks forward to further discussing the development of renewable resources for Arizona.

Sincerely,



Thomas A. Loquvam

Commissioner Brenda Burns

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Copies of the foregoing delivered this 30<sup>th</sup>  
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# Exhibit A



**Projected RES Adjustor Rates**  
**2012 RES Implementation Plan Budget Scenarios by Option**  
**2012-2016**

Option 1	Budget			Residential		Small C&I		Large C&I	
	(in \$M)		\$/kWh	Cap		Cap		Cap	
2012 <sup>1</sup>	129.2	\$	0.013586	\$	5.43	\$	201.84	\$	605.53
2012 <sup>2</sup>	124.0	\$	0.013013	\$	5.21	\$	193.33	\$	579.99
2013	115.4	\$	0.011877	\$	4.75	\$	176.47	\$	529.40
2014	189.2	\$	0.019349	\$	7.74	\$	287.46	\$	862.39
2015	164.4	\$	0.016288	\$	6.52	\$	241.99	\$	725.96
2016	184.9	\$	0.017865	\$	7.15	\$	265.43	\$	796.28

<sup>1</sup> As filed in APS's July 1, 2011 plan.

<sup>2</sup> Inclusive of the modification of 2011 residential grid-tied PV incentives to \$1/watt per Commission Decision No. 72592.

Option 2	Budget			Residential		Small C&I		Large C&I	
	(in \$M)		\$/kWh	Cap		Cap		Cap	
2012	141.2	\$	0.014907	\$	5.96	\$	221.47	\$	664.40
2013	124.8	\$	0.012894	\$	5.16	\$	191.58	\$	574.73
2014	193.7	\$	0.019823	\$	7.93	\$	294.52	\$	883.56
2015	169.8	\$	0.016838	\$	6.74	\$	250.16	\$	750.47
2016	180.7	\$	0.017450	\$	6.98	\$	259.25	\$	777.76

Option 3	Budget			Residential		Small C&I		Large C&I	
	(in \$M)		\$/kWh	Cap		Cap		Cap	
2012	151.5	\$	0.016037	\$	6.41	\$	238.27	\$	714.81
2013	141.2	\$	0.014679	\$	5.87	\$	218.09	\$	654.26
2014	211.2	\$	0.021671	\$	8.67	\$	321.96	\$	965.89
2015	181.5	\$	0.018040	\$	7.22	\$	268.03	\$	804.08
2016	188.4	\$	0.018214	\$	7.29	\$	270.61	\$	811.84

**Notes:**

a) 2013 and 2015 assumes the first full year of a transfer of revenue requirements for utility-owned resources from the RES Adjustor into base rates.

b) The 2014 budget includes the first full year of operational costs for Solana.

c) In 2016, RES requirements increase by a full 1% resulting in a 6% of retail energy sales in this year.

# Exhibit B

# Energy and RES Compliance by Category 2012-2016

	2012		2013		2014		2015		2016	
	Expected MWh Production	% RES Target	Expected MWh Production	% RES Target	Expected MWh Production	% RES Target	Expected MWh Production	% RES Target	Expected MWh Production	% RES Target
RG	1,064,048	154%	1,435,835	181%	2,071,665	228%	2,062,318	201%	2,057,688	164%
Residential DE	126,943	86%	126,943	75%	126,943	65%	126,943	58%	126,943	47%
Non-residential DE	319,133	216%	356,748	210%	395,866	204%	402,946	183%	407,414	152%
Total	1,510,124	153%	1,919,526	170%	2,594,474	200%	2,592,207	177%	2,592,045	145%
% Settlement Requirement	44%		56%		76%		76%		76%	

# Exhibit C

## Current Contractual Commitments 2012 RES Implementation Plan

APS is providing the total amount that would be recovered under the RES program for contractual commitments authorized by the Commission through prior RES Implementation Plans. It is important to note that APS cannot administer these contracts or associated programs without an accompanying overhead budget. Program and contract management history indicate that approximately 10 percent of the contract total must be added for program administration and implementation. This funding level has supported the cost-effective program management required to maintain APS's performance as a top-tier renewable energy program.

Current Contractual Commitments 2012 RES IP (\$000,000)						
Contractual Commitments Authorized Through 2011						
	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	
Renewable Generation \$	67.5	\$ 32.9	\$ 67.5	\$ 59.2	\$ 59.0	
Distributed Energy	14.4	23.1	25.1	25.3	25.4	
Renewable Energy Incentive Program Non-Incentive Costs <sup>1</sup>	0.8	-	-	-	-	
ACC Authorized Commitments Not Yet Under Contract <sup>2</sup>	6.5	18.5	31.2	19.9	19.1	
<b>Contractual Total<sup>3</sup></b>	<b>\$ 89.1</b>	<b>\$ 74.5</b>	<b>\$ 123.8</b>	<b>\$ 104.4</b>	<b>\$ 103.5</b>	
Portion of RES Adjustor to Support only Contractual Commitments <sup>3</sup>						
	<u>2012</u>	<u>2013<sup>4</sup></u>	<u>2014</u>	<u>2015<sup>4</sup></u>	<u>2016</u>	
\$/kWh	\$ 0.009163	\$ 0.007437	\$ 0.012437	\$ 0.010113	\$ 0.009738	
Residential Cap	3.67	2.97	4.97	4.05	3.90	
Small CI Cap	136.13	110.5	184.78	150.24	144.67	
Large CI Cap	408.39	331.5	554.35	450.73	434.02	
Footnotes:						
<sup>1</sup> Contracts associated with customer programs and tools that support awareness and adoption of renewable programs.						
<sup>2</sup> ACC approved programs for which contracts have not yet been signed, but are in negotiation or may be committed by year-end 2011. Includes the remaining capacity of currently approved renewable generation and distributed generation programs.						
<sup>3</sup> Does not include costs required to administer contracts, process incentive payments or administer ongoing programs.						
<sup>4</sup> Calendar years 2013 and 2015 assume a full year of a revenue requirements transfer for utility-owned resources from the RES adjustor into base rates.						

# Exhibit D

**2012 RES Implementation Plan  
Marketing and Advertising Budget**

Customer Programs and Tools	Budget	Notes
Qualified Solar Installer & Trained Solar Installer - Program Costs	\$300,000	The APS Qualified Solar Installer (QSI) Program received approval in 2009 as a part of the Company's 2010 RES Implementation Plan. APS established a partnership with the Electric League of Arizona (ELA) in 2010 to oversee the program, which began offering photovoltaic (PV) and solar water heating (SWH) training workshops in April 2010. The Trained Solar Installer (TSI) program was approved as part of 2011 REIP and the program was launched in February 2011.
QSI - Industry Support	\$400,000	Since the launch of APS's QSI program in the first quarter of 2010, cooperative advertising has been offered as a benefit to installers who successfully complete the QSI program and receive the accreditation. As a result, contractors have built marketing and advertising plans that would be supported through cooperative marketing. The 2012 RES Implementation Plan would allow installers to receive up to \$10K in funding from APS for a variety of advertising methods, such as direct mail, magazine or newspaper advertising, and support for their participation in public events, such as home shows and other consumer and business forums.
Solar Homes Program - Program & Incentive Costs	\$450,000	The Solar Homes Program was approved in 2008 as a part of APS's 2009 RES Implementation Plan. APS has currently entered into a Master Agreement with 17 homebuilders state-wide. It is important to set aside funding to ensure that we are able to cover the costs of this program for builders because in our agreements with builders, they are committing to installing a specific number of rooftop solar systems for the 12- month term of the agreement based on the financial benefits of the Energy Star+Solar Homes program. This budget is designed to ensure that all currently participating home builders have the necessary resources to fulfill their 12-month solar installation commitment.
Solar Homes Program - Customer Education & Awareness Building	\$100,000	Consumer awareness of the ENERGY STAR + Solar program remains low, and APS has indicated to builders that we will create targeted advertising to heighten awareness of the program among consumers and support the builders participating in the program.
Arizona Goes Solar Website	\$25,000	In 2010, APS entered into a three-year contract with a third party vendor on behalf of itself and eleven other electric utility companies in Arizona. APS was ordered by the Commission to lead this effort on behalf of the other utilities and collect the costs incurred for in the Company's 2011 RES adjutor. In addition, APS was ordered to update and maintain their portion of the website on a bi-weekly basis. APS is planning to continue its support of this effort in 2012.

**2012 RES Implementation Plan  
Marketing and Advertising Budget**

IT Transaction Platform and Customer Tools	\$175,000	APS is planning to continue to implement enhancements to online tools provided to installers and customers, including online application and status tool, solar calculator and other online tools. This includes a long-term contract APS has with ACLARA, a software developer, to help with the ongoing efforts associated with the online customer tools.
Arizona Solar Challenge – SmartPower	\$725,000	APS signed a three-year contract with SmartPower in December 2009 to assist APS with the development and launch of the Arizona Solar Challenge to promote residential solar installations throughout the state. This effort consists of the launch of solar challenges in 15 communities to help drive solar adoption statewide. In addition, SmartPower provides Arizona consumers with numerous resources to assist them throughout the solar purchase decision process.
Schools and Government Kiosks	\$125,000	As a part of the Schools & Government program, APS committed to develop kiosks and materials to help educate students and staff at participating schools of the solar generation at the site and the benefits of RE, thereby promoting the adoption of solar by our consumer customers.
<b>Sub-Total:</b>	<b>\$2,300,000</b>	
<b>Customer Education &amp; Advertising</b>	<b>Budget</b>	<b>Notes</b>
Customer Research	\$65,000	Customer satisfaction is a requirement for QSI accredited companies to maintain their designation as an APS Qualified Solar Installer. Funding is required for on-going research to track customer satisfaction with APS and QSI participants. Additional research efforts are planned to continue to gain customer insights that will drive program refinements and improvements over time.
Educational Video Content for Website	\$40,000	Given the substantial amount of information that customers are seeking about APS's RE incentive programs, APS develops video content that addresses the most common questions that customers have about the programs. This content is used on aps.com and in other online environments. This provides customers with an easy to use medium for learning about the programs.
Program Collateral	\$35,000	This funding covers the cost of brochures, informational pamphlets and bill inserts used for customer education about APS's RE incentive programs. These materials are available to customers at events in which APS is participating and upon request.



**2012 RES Implementation Plan  
Marketing and Advertising Budget**

Community Outreach Partnerships & Sponsorships	\$300,000	APS has maintained an on-going partnership with ECOS, a business solutions firm, for renewable energy related events to assist with the planning and implementation of community-based efforts to help with community outreach and education efforts. This funding covers both the costs associated with the sponsorships and our partnership with ECOS.
Customer Education Media Partnerships	\$60,000	These partnerships allow APS to develop video content that can be aired on local cable stations, such as Cox's Sustaining Arizona, and be repurposed for other training and customer education opportunities. Such programming provides an opportunity to educate customers on the many factors related to a solar purchase decision, which is a more cost effective way of targeting and educating rather than relying on 30-second promotional TV ads.
Targeted Direct Mail	\$45,000	While PV participation levels have remained high, APS has occasionally needed to stimulate additional customer interest in solar water heating. Direct mail has proven to be a highly cost effective method of targeting customers likely to be interested in solar water heating and driving program participation. These efforts consistently incorporate testing of messaging, medium (e.g., e-mail vs. direct mail), and other factors to ensure that we maximize the effectiveness of these efforts.
Radio	\$85,000	As a result of the reduction in advertising in 2011, awareness of APS's Solar Rebates among our residential customers dropped significantly from 71% in Spring 2010 to 62% in Spring 2011. A radio campaign is planned to heighten awareness of the programs. It is critical that APS maintain customer awareness of the programs to drive longer term program participation and category growth.
Print	\$30,000	Limited newspaper and magazine advertising is planned to complement the radio campaign to heighten awareness of APS's RE programs among those who are less likely to be reached through the radio campaign.
Outdoor	\$40,000	Billboard advertising is also planned to heighten awareness of APS's RE programs in targeted high transit areas throughout AZ. This is a highly cost effective mass medium for reaching customers who may not be reached through the very limited radio and print efforts. APS estimates that this budget will generate 22.6M customer impressions during a six-month cycle.
<b>Sub-Total</b>	<b>\$700,000</b>	
<b>Total</b>	<b>\$3,000,000</b>	